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7055 7590 01/28/2009
GREENBLUM & BERNSTEIN, P.L.C.
1950 ROLAND CLARKE PLACE
RESTON, VA 20191

EXAMINER	
HENSON, MISCHITA L.	
ART UNIT	PAPER NUMBER

2857
DATE MAILED: 01/28/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,124	05/18/2007	Yoshikazu Nakayama	P30682	4550

TITLE OF INVENTION: NETWORK ANALYZER, TRANSMISSION TRACKING ERROR MEASURING METHOD, NETWORK ANALYZING METHOD, PROGRAM, AND RECORDING MEDIUM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	04/28/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/599,124

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Yoshikazu Nakayama

P30682

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nonprovisional	NO	\$1510	\$300	\$0	\$1810	04/28/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
HENSON, MISCHITA L.	2857	702-185000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

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Date _____

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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/599,124	05/18/2007	Yoshikazu Nakayama	P30682	4550
7055	7590	01/28/2009	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			HENSON, MISCHET A.L.	
			ART UNIT	PAPER NUMBER

2857

DATE MAILED: 01/28/2009

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No.

10/599,124

Examiner

Mi'schita' Henson

Applicant(s)

NAKAYAMA ET AL.

Art Unit

2857

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on October 1, 2008.
2. ☒ The allowed claim(s) is/are 1-8 and 10-13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date ____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

DETAILED ACTION

This action is responsive to the amendment filed on October 1, 2008. Claim 9 has been cancelled. Claims 4, 8 and 12 have been amended. Claims 1-8 and 9-13 are pending.

Drawings

1. The drawings were received on October 1, 2008. These drawings are accepted.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Steven Wegman (31,438) on December 17, 2008 at 9:30 AM EST.

Claim 1 lines 7-8 recite "transmission/reception ports that are connected to the network analyzer side ports one by one, and are used to transmit/receive a signal;"; has been amended to recite --transmission and reception ports that are connected to the network analyzer side ports one by one, and are used to transmit and receive a signal;--

Claim 1 line 12 recites "signal before transmitted by said transmission/reception port, and a reception signal", has been amended to recite --signal prior to transmission by said transmission and reception port, and a reception signal--

Claim 4 line 3 recites "said transmission/reception port", has been amended to recite --said transmission and reception port--

Claim 4 line 6 recites "said transmission/reception port", has been amended to recite --said transmission and reception port--

Claim 6 line 8 recites "transmission/reception ports", has been amended to recite --transmission and reception ports--

Claim 6 line 11 recites "realizing a combination of one", has been amended to recite --realizing, in a connection operation, a combination of one--

Claim 6 line 15-16 recites "said connection realizing", has been amended to recite --said connection operation--

Claim 6 lines 17-18 recite "measuring a signal before transmitted by said transmission/reception port, and a received signal", has been amended to recite --measuring a signal prior to being transmitted by transmission and reception port, and a resulting signal after said signal has been transmitted--

Claim 8 line 7 recites "transmission/reception ports", has been amended to recite --transmission and reception ports--

Claim 8 line 13 recites "transmission/reception port", has been amended to recite --transmission and reception port--

Claim 10 line 8 recites "transmission/reception ports", has been amended to recite --transmission and reception ports--

Claim 10 line 9 recites "transmit/receive", has been amended to recite --transmit and receive--

Claim 10 line 14 recites "transmission/reception port", has been amended to recite --transmission and reception port--

Claim 12 line 3 recites "transmission/reception port", has been amended to recite --transmission and reception port--

Allowable Subject Matter

3. Claims 1-8 and 10-13 are allowed (renumbered: 1, 2, 6-12, 3-5, respectively).

The following is a statement of reasons for the indication of allowable subject matter:

Claim 1 is allowed because the closest prior art, Chodora (JP-118853), Lee (2003/0101387) and Yanagawa et al. (5,661,404) fail to anticipate or render obvious a network analyzer that is connected to a test set that comprises network analyzer side ports, device under test side ports that are connected to a device under test, and a port connecting connector that selects any one of the device under test side ports, and connects the selected device under test side port to one of the network analyzer side ports, wherein the device under test side ports constitute a main port group and a sub port group whose connection to the network analyzer side ports is independently set, the network analyzer comprising:

deriving a transmission tracking error other than the transmission tracking error determined by said transmission tracking error determining based on the transmission tracking error determined by said transmission tracking error determining step, in combination with all other limitations in the claim as defined by the applicant.

Claim 6 is allowed because the closest prior art, Chodora (JP-118853), Lee (2003/0101387) and Yanagawa et al. (5,661,404) fail to anticipate or render obvious a transmission tracking error measuring method of measuring a transmission tracking

error of a network analyzer that is connected to a test set that comprises network analyzer side ports, device under test side ports that are connected to a device under test, and a port connector that selects any one of the device under test side ports, and connects the selected device under test side port to one of the network analyzer side ports, wherein the device under test side ports constitute a main port group and a sub port group whose connection to the network analyzer side ports is independently set, the network analyzer comprising:

deriving a transmission tracking error other than the transmission tracking error determined by said transmission tracking error determining based on the transmission tracking error determined by said transmission tracking error determining step, in combination with all other limitations in the claim as defined by the applicant.

Claim 8 is allowed because the closest prior art, Chodora (JP-118853), Lee (2003/0101387) and Yanagawa et al. (5,661,404) fail to anticipate or render obvious a network analyzing method of analyzing the net work by using a network analyzer that is connected to a test set that comprises network analyzer side ports, device under test side ports that are connected to a device under test, and a port connector that selects any one of the device under test side ports, and connects the selected device under test side port to one of the network analyzer side ports, wherein the device under test side ports constitute a main port group and a sub port group whose connection to the network analyzer side ports is independently set, the network analyzer comprising:

deriving a transmission tracking error other than the transmission tracking error determined by said transmission tracking error determining based on the transmission

tracking error determined by said transmission tracking error determining step, in
combination with all other limitations in the claim as defined by the applicant.

Claim 10 is allowed because the closest prior art, Chodora (JP-118853), Lee (2003/0101387) and Yanagawa et al. (5,661,404) fail to anticipate or render obvious a computer-readable medium having a program of instructions for execution by the computer to perform a processing for analyzing a network by using a network analyzer that is connected to a test set that comprises network analyzer side ports, device under test side ports that are connected to a device under test, and a port connector that selects any one of the device under test side ports, and connects the selected device under test side port to one of the network analyzer side ports, wherein the device under test side ports constitute a main port group and a sub port group whose connection to the network analyzer side ports is independently set, the network analyzer comprising:

deriving a transmission tracking error other than the transmission tracking error determined by said transmission tracking error determining based on the transmission tracking error determined by said transmission tracking error determining step, in
combination with all other limitations in the claim as defined by the applicant.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

4. Applicant's arguments, pages 12-13 of remarks, filed October 1, 2008, with respect to claims have been fully considered and are persuasive. The rejection of claims 1, 8 and 10 has been withdrawn.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Krekels et al. in US Patent 6,081,125 teaches a network analyzer having one or two test ports each of which is connected via fourports to measuring points the measured values of which are analyzed in an evaluation means that includes a memory for storing system errors which have been determined during a calibration operation and must be taken into account for the object measurement, there is provided a calibration twoport between at least one of said test ports and said fourport of the associated measuring points, said calibration twoport being adapted to be switched from a basic state to two further switching states, and said calibration twoport differs in one of said further switching states from the basic switching state at least in transmission and in the other one of said further switching states differs at least in reflection from the basic switching state.

Bockelman et al. in US Patent 5,793,213 teaches A calibration standard (204) provides interconnection between measurement ports (212, 214, 216) of a network analyzer (202) having at least three measurement ports. Once the measurement ports (212, 214, 216) of the network analyzer (202) are interconnected, a non-zero signal

transfer is generated between each of the measurement ports and at least one other measurement port as part of the calibration process. Interconnecting all of the measurement ports (212, 214, 216) together and generating non-zero signal transfers characterizes the relative relationship between the ports during the calibration process. The calibration standard (204) can also provide a desired level of mode conversion.

Adamain in US Patent 5,578,932 teaches a method and apparatus for providing a programmable broadband, highly stable and repeatable multistate electronic transfer standard to be used in determining the systematic errors of a VNA.

In a first illustrative embodiment of the present invention, an apparatus for converting a two-port vector network analyzer to an N-port vector network analyzer and for calibrating the N-port vector network analyzer includes a test set having a first port coupled to a first port of the two port vector network analyzer, a second port coupled to a second port of the two-port vector network analyzer, and N-ports. The test set includes a circuit that selectively couples one of the N-ports of the test set to the second port of the test set. The apparatus also includes a multi-state transfer standard having N-ports coupled, respectively, to the N-ports of the test set. The multi-state transfer standard provides, at each of the N-ports of the multi-state transfer standard, a plurality of conditions necessary to calibrate the two-port vector network analyzer.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mi'schita' Henson whose telephone number is (571) 270-3944. The examiner can normally be reached on Monday - Thursday 7:30 a.m. - 4:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571) 272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

12/16/08
/Mi'schita' Henson/
Examiner, Art Unit 2857

/Eliseo Ramos-Feliciano/
Supervisory Patent Examiner, Art Unit 2857